

**Alternatives to Automotive Consumer Products that use Volatile Organic Compounds (VOC) and/or Chlorinated Organic Compound Solvents**

**Addendum**

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## **DISCLAIMER**

The statements and conclusions in this Report are those of the contractor and not necessarily those of the California Air Resources Board. The mention of commercial products, their source, or their use in connection with material reported herein is not to be construed as actual or implied endorsement of such products.

## ACKNOWLEDGMENTS

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## DESCRIPTION OF ADDENDUM

This addendum to the document entitled “Alternatives to Automotive Consumer Products that use Volatile Organic Compounds (VOC) and/or Chlorinated Organic Compound Solvents” presents the questionnaires that were filled out by the staff of the Institute for Research and Technical Assistance (IRTA) during the project. IRTA recruited 13 auto repair facilities, three automotive detailers, one car wash and three consumers to test and evaluate the alternative low-VOC alternatives developed in the course of the project. IRTA generally provided samples of the alternatives to the facilities and monitored the testing on a weekly basis.

The questionnaires were filled out by IRTA staff when the facilities or individuals had completed testing of each alternative. In a few cases, facility personnel filled out the questionnaires themselves. This addendum provides the raw data questionnaires in the following order:

- Engine Degreasing Questionnaires--based on feedback from the three automotive detailers, one car wash and three consumers on the alternative engine degreasers
- Carburetor and Fuel Injection System Cleaning Questionnaires--based on feedback from the 13 auto repair facilities
- Brake Cleaning and General Purpose Degreasing Questionnaires--based on feedback from the 13 auto repair facilities

## **Carburetor and Fuel Injection System Cleaners**

# Automotive Aerosol Field Testing Interview

Date	User	Owner / Manager	Interviewer	Product ID.
7/1/04	RAFEK	Matthew KAZE	John Z.	5098547/ACE/1000 7-24 C-02

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
GIANK CARB CLEANER	1-2 CANS	RAFEK	2 CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	YES
Did it have an objectionable odor	NO, BUT KIND OF BAD.
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	ALMOST AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	NO
Would you buy the test product for home or personal use	NO
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	NO
Could you clean adequately if you had only the test product	YES

## User Comments

WOULD NOT BUY BECAUSE DIDN'T CLEAN AS WELL AS GIANK  
AND OTHER TEST PRODUCT WERE BETTER, ALSO SMELL WAS NOTICABLE

## Manager Comments

# Automotive Aerosol Field Testing Interview

MORGAN AUTO

Date	User	Owner / Manager	Interviewer	Product I.D.
7/13/01	TOM	GREGG MORGAN	JOHN ZAVADEL	5090 SOL/ICE 1000 EAL 603

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
CRC-CARB	22-CANS/WEEK	2-FWD TESTING	3-CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	YES
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product (Terrible, almost as good, as good, better)	ALMOST AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	NO
Could you clean adequately if you had only the test product	YES

## User Comments

NOT AS GOOD AS CURRENT CARB CLEANER BUT CLOSE, NOT  
AS GOOD AS OTHER CLEANER (3590 SOL/ICE 1000)

## Manager Comments



# Automotive Aerosol Field Testing Interview

S.M. AUTO CENTER

Date	User	Owner / Manager	Interviewer	Product I.D.
8/2/84	RENE	EDUARDO	JOHN ZAVARZ	50102501 / ACCURATE CO.

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
Ferris	1-2 CANS	1- FIVE GALLON	2- CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	NO
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	NO/YES
Could you clean adequately if you had only the test product	YES

## User Comments

WORKS AS WELL AS CURRENT CLEANER

## Manager Comments

# Automotive Aerosol Field Testing Interview

Date	User	Owner / Manager	Interviewer	Product I.D.
8/3/01	ESMT	EDUARDO	JOHN ZAVALL	SOLVO 500 / ACETONE and GOS

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
SPRINKLES	1-2 CANS	1-THIRDS SHEET	2-CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	NO
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	NO/YES
Could you clean adequately if you had only the test product	YES

User Comments

Manager Comments



# Automotive Aerosol Field Testing Interview

Date	User	Owner / Manager	Interviewer	Product I.D.
8/2/01	EMERSON PARKWAY	GEITY	JOHN ZAVAREL	5011/ACC 7000 TU CUP

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
AMERICAN AUTOMOTIVE BODY BRACE CLEANER	2-CANS	CARBURETOR	2-CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	YES, SEEM TO EFFECT/HARDEN SOME PART
Did the product have a smell	YES
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	NO, <del>NO</del>
Could you clean adequately if you had only the test product	YES

## User Comments

ON ONLY ONE THROTTLE BODY VALVE- AND ONE PLASTIC PART  
IN THAT HALL IT IS SUSPECT THAT THE CLEANER DROPPED OUT  
THE PART

## Manager Comments

# Automotive Aerosol Field Testing Interview

GERMAN AUTO

Date	User	Owner / Manager	Interviewer	Product I.D.
7/13/04	MARTELLO	GUNTZMAN	JOHN ZAVADEL	50% SOLVENT/40% H <sub>2</sub> O

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
BEECHMAN	6-12 cans/week	MINTELLO	1-CAN

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	YES
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	ANYONE
Could you clean adequately if you had only the test product	YES

User Comments

Manager Comments



### Automotive Aerosol Field Testing Interview

*MERCEDES - BENZ*

Date	User	Owner / Manager	Interviewer	Product ID.
7/24/04	KEN	MIKE HAWKER	JOHN Z	50% 2011/2004/2004 T-11 C-11

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
NO. 2 BRK. CLN.	2-4 CANS	KEN	2-CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	YES
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD OR BETTER
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	YES
Could you clean adequately if you had only the test product	YES,

**User Comments**

*PROV. GOOD FOR THROTTLE BODY / INTAKE CLEANER*

**Manager Comments**

# Automotive Aerosol Field Testing Interview

CONNELL CHEV.

Date	User	Owner / Manager	Interviewer	Product I.D.
7/27/04	TONY	JOHN RUSSELL	JOHN Z	5090 5091/102704

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
WYNN'S	2-4 CANS	TONY	2-4 CANS

Question	User's Response
Did it clean sufficiently	NO
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	NO
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	NOT VERY GOOD
Did you use more volume than your current cleaner	YES
Did it take longer to clean	YES
Did you like the product	NO
Would you buy the test product	NO
Would you buy the test product for home or personal use	NO
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	NO
Could you clean adequately if you had only the test product	NO

## User Comments

WASNT VERY GOOD, VERY LITTLE CLEANING

## Manager Comments



# Automotive Aerosol Field Testing Interview

Date	User	Owner / Manager	Interviewer	Product ID.
7/13/04	SCOTT	IRA NEWMAN	SCOTT	50% 501/ACETONE

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
CRC	1-CAN	SCOTT	2-CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	YES
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	ALMOST AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	NO
Would you buy the test product for home or personal use	NO
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	NO
Could you clean adequately if you had only the test product	YES

## User Comments

NOT AS GOOD AS CURRENT CLEANER, LIKED OTHER SOL PRODUCTS BETTER

## Manager Comments

### Automotive Aerosol Field Testing Interview

<b>Date</b>	<b>User</b>	<b>Owner / Manager</b>	<b>Interviewer</b>	<b>Product I.D.</b>
8/3/64	NORMAN	IRA NEWMAN	JOE Z	5010 204 / ACTION 6 IN CO2

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

<b>Current Product</b>	<b>Current Weekly Usage</b>	<b>No. Mech. Using Product</b>	<b>Test Product Weekly Usage</b>
MESC	1-2 CANS	NORM	2-CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	NO
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD OR BETTER
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	YES
Could you clean adequately if you had only the test product	YES

**User Comments**

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**Manager Comments**

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# Automotive Aerosol Field Testing Interview

SHELL PLACENTA

Date	User	Owner / Manager	Interviewer	Product I.D.
8/13/14	FESUIS	NTCK	STAN Z	5090 SOLT / ACC. FENG TEL. CO. 2A

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
CRC CARB CLEANER	1-CAN	FESUIS	1-CAN

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	NO
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD OR BETTER
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	YES
Could you clean adequately if you had only the test product	YES

## User Comments

WORKED VERY GOOD ON INTAKE & THROTTLE BODY VALVES

## Manager Comments

# Automotive Aerosol Field Testing Interview

Date	User	Owner / Manager	Interviewer	Product I.D.
6/8/81	RAEEL	MATTHEW	JOHN ZAVADIL	3594 204 / ACC-1000

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
GEN. BRAKE CLEANER	6-12 CANS / WEEK	1-MECH. TESTING	3-CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	YES
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	AS GOOD
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	YES
Could you clean adequately if you had only the test product	YES

## User Comments

WORKED WELL FOR THROTTLE BODY VALVE CLEANING

## Manager Comments



# Automotive Aerosol Field Testing Interview

Date	User	Owner / Manager	Interviewer	Product I.D.
4/21	SERGATO	SERGATO LOPEZ	JOSE ZAVADIL	BSEB 500/ACETONE

Type of Cleaning Performed (Circle One Only)			
General Purpose Degreasing	Brake Cleaning	Engine Degreasing	Carburetor & Fuel Injection System Cleaning

Current Product	Current Weekly Usage	No. Mech. Using Product	Test Product Weekly Usage
		1 - FLO-7657820	3 - CANS

Question	User's Response
Did it clean sufficiently	YES
Did you like the delivery rate	YES
Did you like the delivery pattern	YES
Did it dry sufficiently	YES
Did it adversely effect substrates (metals, plastics, painted surfaces, etc)	NO
Did the product have a smell	YES
Did it have an objectionable odor	NO
Did it leave an unacceptable residue	NO
Did it have too much foam	NO
Cleaning versus current product. (Terrible, almost as good, as good, better)	BETTER
Did you use more volume than your current cleaner	NO
Did it take longer to clean	NO
Did you like the product	YES
Would you buy the test product	YES
Would you buy the test product for home or personal use	YES
Would you buy your current product for home or personal use	YES
Would you switch to the test product (if less expensive, if more expensive)	YES, FOR CARB-E-THROTTLE BODY VALVES
Could you clean adequately if you had only the test product	YES

## User Comments

PRODUCT WORK VERY GOOD ON INTAKES, CARBURETORS,  
2-THROTTLE BODY VALVES DOES NOT WORK AS A TOOL FOR  
FINDING VACUUM LEAKS

## Manager Comments